



Battery option BP123 (BA7030) for the AR7030

The battery option, BP123 enables portable operation of the AR7030 using an internally fitted lead acid cell which will give over four hours operation between charges under average operating conditions. The battery is charged using an inverter circuit mounted on the battery supporting bracket and charging is possible either from the standard power supply or from any external DC supply capable of supplying between 9 and 15 V @ 2A. The battery will achieve a 70% fast charge in 2 hours.

NB: There is a "slight" performance decrease by a few dB when running from the internal 12V battery and coverage above 30MHz is not guaranteed.

Contents:

Qty 1	Lead acid battery type NP2.1-12
Qty 1	Battery option bracket with PCB
Qty 1	Five way locking pin header
Qty 1	Six way locking pin header
Qty 2	M3 X 6 black pan head screw
Qty 2	M3 nut
Qty 2	M3.5 X 6 Taptite screw

Fitting instructions:

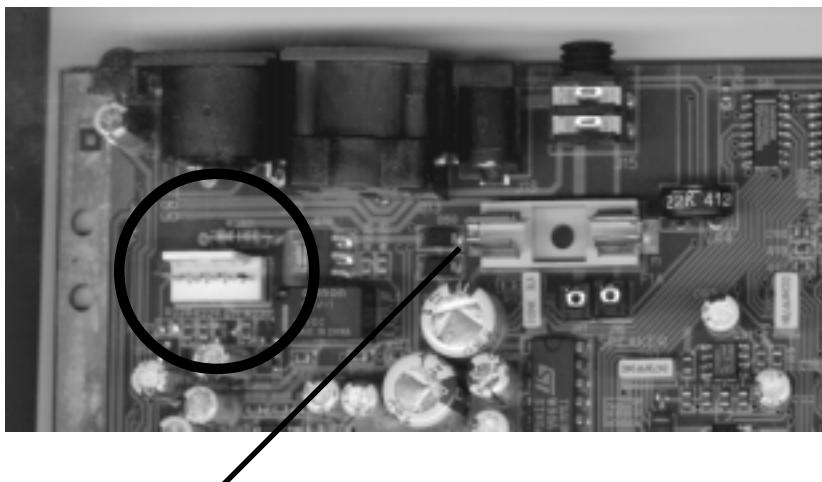
Before starting, place a cloth on the work surface to prevent scratching the receiver.

To gain access for fitting the battery option both top and bottom covers require removal. The top is held in place by four screws requiring a 2.5mm hex key to undo them. The bottom plate is held by six No.2 Posi-drive screws. The speaker is connected to quick release sockets J 16 and 17. To release these lift the black plastic up around 5mm and the wire can be detached.

Alternatively, as access to these terminals is restricted by the battery option, you may find it more convenient to unsolder the wires from the speaker. You will then need to temporarily remove any other bracket mounted options which may be present.

Solder the appropriate locking header (either five or six way) in the position J11 on the main PCB of the AR7030 as shown in the picture. Pay special attention to the direction in which the locking tab faces, the tab should be facing towards the rear of the set.

Make sure that the speaker wires are re connected to the main PCB as access to terminals J 16 17 is not possible after the bracket is fitted then temporarily remove the battery from the supporting bracket and then fit the bracket to the AR7030 by inserting it diagonally and leaving it unsecured whilst the appropriate connections are made. First connect the six way Molex connector from the battery option to the pin header J 11 on the main board:



If your set has a five way connector for J 11:

In the case of sets with a 5 way pin header the connector will overhang the socket by one position on the right hand side of J 11 and the additional red flying lead from the six way plug

should be soldered to the fuse holder F1 on its terminal, use the solder pad close to the PCB and adjacent to D 50 and D 51... don't solder onto the actual fuse holder itself.

If your set has a six way connector for J 11:

If you have a 6 way connector fitted then simply cut the red flying lead off close to the housing before plugging it onto the pin header. (Make sure no bare wire is protruding from the connector after this operation as this wire will have full supply on it as soon as the option is installed.)

Ensure the cable harness is underneath the diagonal slanting portion of the bracket at the left hand side and secure the bracket to the rear of the set using the two black M3 screws and two M3 nuts. The two M 3.5 Taptite screws should then be used to secure the bracket to the sides of the AR7030. The screws fasten into a groove which runs the entire length of each side piece close to the top. This groove is not visible when looking directly down into the set but can be seen if the set is tilted on one side. Feed the thick red and black wires under the slanting portion of the bracket next to the cable harness you connected to J 11 and plug the spade connectors onto the battery being careful to observe the polarity. (Red to the +ve terminal black to the -ve terminal.) Re install the battery in the bracket. The cables from the battery can be carefully routed to lie just above the thick foam cushion at the rear of the bracket.

Either test at this point or replace the top & bottom case halves, then test. It is important that you fit the top case BEFORE the bottom case.

When replacing the top, make sure that it is pressed fully home (flush to the sides) before putting the screws in. The screw threads are not long enough to pull the top down into the side pieces without damaging the threads. Tighten the screws only finger tight - do not over tighten.

Operation

When operating from the battery the AR7030 will not display the clock in standby mode in order to conserve power and as a result will require the power button to be held for around 1 to 2 seconds to turn the set on.

The battery is charged when power is connected to the AR7030. It will be charged at a fast rate whenever power is re connected to the socket on the rear of the AR7030 following battery operation. The duration of the fast charge is governed by the internal clock of the receiver and will commence at the next whole minute interval from re application of power. The legend Fast chg will then be displayed at the right hand side of the display. If power is left connected, the AR7030 will reduce the charge rate to the standard level after an appropriate interval at which point the display will display the legend Std Chg.

The back light has been utilised to act as a low battery indicator and will go out when the battery requires charging.

There is a “slight” performance decrease by a few dB when running from the internal 12V battery and coverage above 30MHz is not guaranteed, other than this the set will operate normally for around four hours between charges.



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